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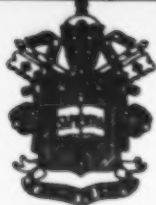
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ABSTRACT

Ways in which language teachers can formally investigate the teaching and learning processes occurring in their classrooms are discussed in four sections. The topics covered include: the concept of research, its variety of meanings, and the prestige associated with it; the classroom teacher's traditional role with regard to research and how that role can or should change; techniques for organizing and carrying out classroom research projects; research projects carried out by Brazilian teachers of English as a second language and English for special purposes; and research projects that are potentially motivating and manageable. (MSE)

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WORKING PAPERS Nº 17

THE TEACHER AS RESEARCHER

JOHN HOLMES

JULY 1986

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THE TEACHER AS RESEARCHER

1. INTRODUCTION

The object of this working paper

This working paper differs from many other working papers which the Brazilian National ESP Project has published in that it is addressed to all language teachers and not just those of ESP. Thus, this paper has been prepared for anyone interested in improving his own teaching and learning from his own experience and the experience of others.

Consequently, if you have never heard of ESP you should still understand the concepts in this paper, and if you are a member of the Brazilian ESP Project and have read some of the previous working papers, you should have little difficulty in selecting an area in which to apply the ideas put forward in this paper.

By the time you finish reading this paper, I hope you will be able to achieve the following objectives:

1. To be able to define the term 'research', the different types of research which exist and the reasons for conducting research.
2. To be able to formulate appropriate questions to which a research project can give answers. By 'appropriate' questions we mean those which relate directly to your own teaching or learning situation.
3. To get to know the different ways in which research projects can be set up by a practising classroom teacher and the ways in which data from these projects can help to improve teaching techniques, materials and methodology.
4. To be able to plan or outline a research project, the results of which can be usefully communicated to your colleagues in order to help them find answers to problems relating to their own teaching and learning situation.

It will be divided into the following sections:

- (a) What is research? Why does the word have so many different meanings, and why does the idea of 'research' carry such great prestige?
- (b) The teacher as researcher. What has been the traditional role of the classroom teacher with respect to research and why or how should this role change?
- (c) Techniques and methods in research. How can teachers carry out research projects relevant to their own teaching situation?
- (d) Examples of research projects. Some brief accounts of research projects carried out by Brazilian teachers of English and ESP.
- (e) Suggestions for other research projects. Some ideas which may inspire or motivate teachers to carry out research projects of their own and ways in which the results can be divulged.

This working paper is not the first publication by the project dealing with the topic of research. There is Mike Scott's (1985) article on 'Research Design for ESP' which was the result of

workshop discussions during the regional seminars of October 1985. Scott's article discusses the necessary steps which need to be taken in setting up a research project, and gives a long list of appropriate questions which could be answered, - at least partially - by a research project. The objective of this paper is not to duplicate Scott's paper but to give the reader an appetite for carrying out a research project by showing how fascinating and how relatively easy it is. If you have not read Scott's article already, then this working paper will help you make better use of it.

Finally, within the Brazilian National ESP Project a great deal of research has already been carried out, both of a formal and informal kind. Tony Deyes (1985) gives a summary of several of these published research projects and in the ESPecialist No.12 (1985) there is an index of all the articles published by the project, in which feature the results of many research programmes.

2. What is research?

2.1 What does the term mean?

What do we mean when we talk about 'research' and 'doing research'? It's a word which has a range of meanings in English, and in Portuguese is even more diffuse. It can refer to the product of scientific endeavours involving expensive instruments and sophisticated equipment usually processed and rendered unintelligible to most language teachers by a detailed statistical treatment. Let's take as an example an article by Haerberlandt (1984). When the author finishes describing what seems an interesting experiment in measuring the attitudes and the time taken by readers, he gives his results as follows:

In a multiple regression on the reading times from the recall and question-answering experiments the number of agents was entered as a predictor variable along with seven other variables, but excluding the story factors. The multi-agent factor was reflected by regression coefficients of 228 milliseconds ($p < .001$) and 66 milliseconds ($p = .11$) in the recall and question-answering experiments, respectively. From the reader's point of view the multi-agent hypothesis appears plausible, especially when asked to recall the story.

To many teachers of languages this is what makes research a prestigious and somewhat frightening activity!

On the other hand it can refer to the kind of activity that kids do at primary school, characterised for me recently by the following example of a 'pesquisa':

O JACARÉ
O Jacaré é muito perigoso.
O Jacaré tem uma casca muito dura
O Jacaré tem dentes muito grandes
O Jacaré tem um rabo muito comprido.
O Jacaré etc., etc.....

However, what I am going to discuss in this working paper will be neither of the two extremes. Let's begin by agreeing on a working definition for this word 'research'.

Hatch and Farhady (1982) in their book "Research Design and Statistics for Applied Linguistics" give a definition which is relevant to our purpose: (Page 1)

We can define research as a systematic approach to finding answers to questions

Thus, as the authors say: 'In research our task is to ask appropriate questions, to select the best and optimally the shortest way to find answers and to interpret the findings in a way which we can justify.' (P.1)

Of course this definition leads to more questions. For example what do we mean by "appropriate questions"? The answer is that we don't know what these are until we start looking for the answers and seeing what happens. To take a common example, this is what children learn to do as they grow up and explore the world about them. The child soon learns what is considered appropriate and what is not. Thus, the child asks an appropriate question such as:

"Mummy, is that a horse?"

Mummy pats the child indulgently on the head and smiles and supplies the answer:

"No, dear, it's a pony."

The child asks an inappropriate question such as:

"Why is it a pony, mummy?"

And finds that Mummy soon starts to lose patience

For children, learning the distinction between appropriate and inappropriate questions can be a complex and bewildering process. The child, though suffers from the fact that his curiosity is diffuse and general, - he asks questions about everything, without focussing on some topics or certain types of questions.

2.2 Informal research

We as teachers are in a more fortunate position than the child learning about the world about him. We want to ask questions which will make us better teachers and help us to understand our students better. We want to base our questions and answers on our own experiences as teachers, on those of our colleagues and not least important on the experiences of our students.

Consequently, all teachers who have entered a classroom and have noticed what happened there can be considered potential researchers. All practising teachers have, informally, carried out research projects of their own. Let's take an example. Try to answer, briefly, the following questions:

1. Are you a better teacher now than you were when you first entered a classroom?
2. In what way?
3. Can you remember a ghastly mistake you made at the beginning of your teaching career?
4. How did you discover and correct that mistake?

5. Is there one important piece of advice you would give to someone who is beginning a career as a teacher?
6. Do you think that other teachers would give the same piece of advice? Why?/Why not?

Perhaps in answering the above questions you might have noticed the results of your own research. Thus, whether we are aware of it or not, any teacher who is aware of his surroundings is a researcher, and has spent time in the classroom gathering and using data.

2.3 Academic research

Normally, however, research is associated with a formal procedure. In all the sciences, - from physics to sociology and educational psychology, - there is a standard procedure for research, which can be represented by the following diagram:

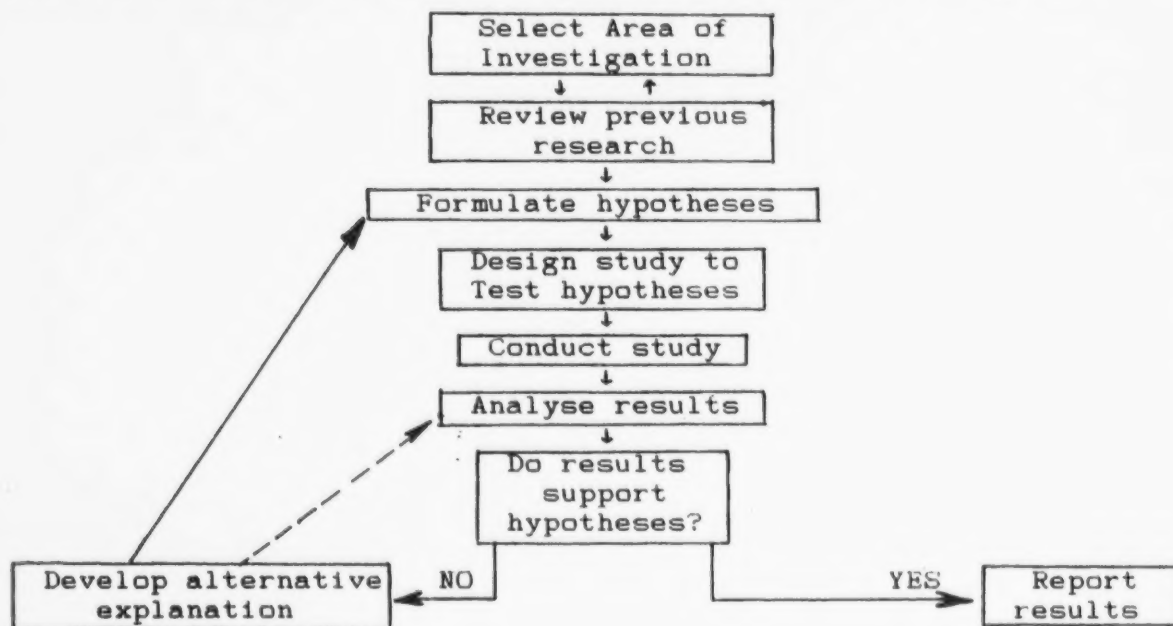


DIAGRAM: WALKER (1986) P.47

This is the way in which we traditionally view research as taking place, and we usually think of the kind of investigation which takes place when preparing a master's thesis. The process can be formal or it can be more casual. For example, the first stage, the selection of the area for investigation can be done by the teacher who develops an interest in an area or it can be someone who finds that the literature on a certain topic seems to contain gaps of a certain kind. The hypothesis which arises can likewise be formal or more casual: it can be an "I think this will happen..." type of hypothesis.

In the following sections of this paper we shall look at ways in which the study to test the hypotheses can be carried out, paying special attention to the relevance of these studies for the classroom.

To return to the classical research pattern, we then look at our study and see if our hypothesis is confirmed. Usually researchers develop a relationship of unreasonable devotion to their hypotheses and regard them as being creatures which can do no wrong, and against which no-one is allowed to say a bad word. This is rather like someone who originally buys a dog to look after the house and finishes up becoming more devoted to the dog than the dog is to the master. Let's not forget that if the hypothesis is falsified by the research study, then this too is a useful conclusion, - perhaps even more interesting because it was unexpected, and no-one can accuse the researcher of 'fixing' his results.

Finally then, we end up with a hypothesis confirmed, refuted, or changed, but usually with reservations. For example, you sample study consisted of adolescent students of English from a small town in the interior of Mato Grosso. You would be rash if you could claim that what was true of your group will be true of adolescents everywhere in the world. But at least you can say "This is what happened with my group. It could happen with other groups in other circumstances" You should always be careful if researchers make universal claims on the basis of their experimental results. It is rare that anyone can confirm a hypothesis in its totality, just as in real life decisions there are no absolutes.

One important feature which does not appear on the diagram is the information that is obtained as a by-product of the research. You find out facts that you never suspected, or in finding an explanation for your results, you may finish up with some new ideas for research. That is why many good research papers may raise more questions than they answer. The old method of concluding the paper by "calling for more research" may be more than a rhetorical device, it may show how useful the research was.

2.4 An Example of Classical Research: The Pennsylvania Project

Let's take an example of academic research in its classical form, "The Pennsylvania Project" as reported by P. Smith (1970). The aim of the research was to answer a question which seems fairly simple, or at least is a question that teachers often ask themselves and other colleagues. We shall see later whether or not it was an "appropriate" question. The question was:

Which is the best method for foreign language teaching?

The choice was between the audiolingual method, then entering its period of decline and the "cognitive code" method, which was an updated and more communicative version of grammar translation. (As far as I can make out on reading the literature)

The hypothesis was that the cognitive code method would be more effective, mainly because the theories of Chomsky, at that time very much in vogue, pointed to the desirability of teaching language deductively and valuing the learner's learning capacity.

In terms of previous research there was a huge literature in psycholinguistics and language teaching, but no explicit studies to compare methods in the classroom. The 'Pennsylvania Project'

had enough resources to design and undertake a study on a huge scale, - in a total of 58 schools, in fact.

And so the study began. Some teachers taught using explicitly audiolingual materials and others used the cognitive code materials. The students were then tested at intervals and their progress evaluated and compared. At the end of a couple of years, you would think, the differences between the two groups would start to emerge, and it would be possible to decide which of the methods were best.

The results were disappointing for the researchers. When processing the test results of the students, for example, the differences that emerged were not nearly so clear as had been imagined, and were not really sufficient to allow any researcher to decide categorically between the two methods. So the answer to the fundamental question was not "The Cognitive Code Method" or "The Audiolingual Method", but was more like a "It depends..." The frustration of the researchers, and the agencies that had funded this project, was general.

So, the researchers checked on their procedures. Did the teachers really use the materials in the appropriate way? From time to time during the research, the teachers were observed in the classroom to check, but this could have meant that they put on a special performance for the observers. Also, it became apparent, that no teacher really followed one method with total commitment. And no teacher would dedicate himself so firmly to the experiment as to teach the students in a way which he personally did not consider to be the best. Thus the experiment, for many people, was a failure, - in spite of the resources invested it did not give a clear answer to the question.

And yet at least the experiment provoked an interesting debate, and led to an examination of the initial question. Is it possible to say that one method is better than another? Perhaps there is no such thing as a good method or a bad method, and everything depends on what is most appropriate for teacher, students and the particular circumstances. In other words, perhaps the question at the beginning was not an appropriate one for research?

In 1970 that conclusion was difficult to accept, and even today there are still teachers who want to apply the best "methods" and imagine that there are absolutely right and wrong ways in teaching. Nonetheless it is interesting to see how the research project, although it did not answer the question, threw a great deal of light on a more fundamental question, and gave in fact an unexpected result.

This is perhaps one of the great values of carrying out research of one's own. Even if you fail to answer your basic question conclusively you always learn about something else.

3. Teachers and Research

3.1 The traditional rôle of the teacher as a consumer of research

Traditionally, the EFL teacher has been a consumer of research carried out by others. Research performed by institutions of great prestige such as MIT seems by its very nature to be more useful and important than the research which you carried out in your classroom, last Thursday evening. Apart from the fact that you felt tired, half your class wanted to fall asleep and the other half were only interested in finding out when the next test would be so that they could get their final grade and never have to study English again.

And yet, of course, your own data could give you a deeper insight into your own students than anything that came from the traditional laboratories of MIT. More than that, your own data, coming from a real classroom could be more relevant in terms of direct classroom applications, than anything that ever came out of a laboratory.

Unfortunately there is another factor at work. In the world of applied linguistics the classroom teacher was regarded as the lowest rung of a hierarchy that always looked on the teacher as a consumer of other people's ideas and insights. Normally you start out as a classroom teacher, usually with beginners or first-year students. Then you move to more advanced students or more mature students. You think back to those first years with your beginners classes with horror. If you're lucky you move to teaching literature and take on some administrative responsibilities. If you are really lucky, and you manage to leap the academic hurdles of M.A. or Ph.D., then you will have proved that you are too intelligent to be a mere teacher of languages and you will rise to the dizzy heights of teaching only postgraduate students, and you never really need to enter a classroom again. If you want you will probably have time to write a book on how to teach English for the benefit of your poor ex-colleagues who want to rise to your position.

Let's take an example of this traditional role of the teacher. Notice that I am quoting from publications produced over ten years ago:

1. Listening and speaking should always precede reading. It is only after students can say material with reasonable fluency that they should be permitted to see it

[Finnocchiaro and Bonomo (1973) p. 119]

2. In their anxiety to hasten the day when their students can read on their own, well-meaning teachers often destroy the developing direct-reading habits of their better students by putting into their hands supplementary readers, simple enough in content, but containing different vocabulary, structure and even tense forms, from those which the students have learned and practiced in class. Students should not be presented with reading material which is other than a clever recombination of known elements, with a few easily

identifiable novelties, until the teacher is reasonable confident that their knowledge of the language is sufficient for them to read without recourse to a dictionary.

[Rivers (1968) p.228]

As we can see, the expert gives advice to the novice in definite terms. The expert uses words like 'should' 'should not', 'permitted' and so on. The data to justify this advice comes from the writers' own experience or from applications and extrapolations of applied linguistic theories.

It should be mentioned that very often teachers prefer this kind of advice, -they find it clear and they know from this what is right and wrong in the classroom. Nonetheless this kind of advice, based on research that was originally carried out far from the classroom, reduces teachers to a dependent role and makes them put the blame for their problems on their own inability to follow the 'method' properly.

Thus, when any great expert gives a talk to teachers, at the end of the talk, in the question session, the kind of advice that teachers seek can be exemplified as follows:

To a visiting professor who discusses essay writing:

How should I mark my students' compositions? What percentage of marks should I give for grammar, spelling, vocabulary, and imagination?

To a speaker who talks about the communicative approach:

Should I correct my students' grammar mistakes in the conversation class?

After a talk on text structure and text typology:

How can I select interesting materials for my students?

After a discussion on reading in EAP:

But shouldn't I teach speaking and listening before reading, because they are more basic skills?

If the expert turned the teacher and said: "Well, what do you do?" The response of the teacher would be something like: "Well, it depends. But I haven't got a definite rule that I follow in every situation." The answer is of course that there is no definite answer to the questions above. Experts who give global rules with regard to classroom management or techniques are only misleading the teacher and misleading themselves.

The examples of authoritative statements which I gave above are all taken from books published some years ago, and the authors would probably feel reluctant to take the same tone in their pronouncements nowadays. But teachers still consult the work of the recognised authorities in searching for advice. What do they find now in response to their questions and their requests for guidance?

Let's take a popular book on teacher training, in which the author certainly avoids giving global rules, such as Stevick (1982) In response to the teacher's question: "Should I use drills?" Stevick's answer is as follows: (P.89)

Now what about drills? Many students expect them, many textbooks provide them, and the administration of your school may require you to use them. Yet you hear of highly competent teachers, some of them leaders in their profession, who get along without them and even avoid them. What conclusion should you draw?

The conclusion that you reach will be your own.

In my opinion, perfectly sensible advice, but not very reassuring to someone who is about to go into the classroom for the first time, or who is trying to analyse why he feels depressed and unsatisfied after his first term's teaching.

Let's take another example of recent advice to teachers. This time from Finocchiaro and Brumfit (1983); (P.173):

.....you, the teacher are the crucial resource in the classroom. It is only you who can create the favorable classroom atmosphere which will promote a mutually accepting relationship between you and your students. You are able to do this because you make your learners aware of your liking and respect for them and because you are always ready to demonstrate your obvious enthusiasm for the language you are teaching. You are of primary importance in engendering and sustaining your learners' motivation etc, etc.

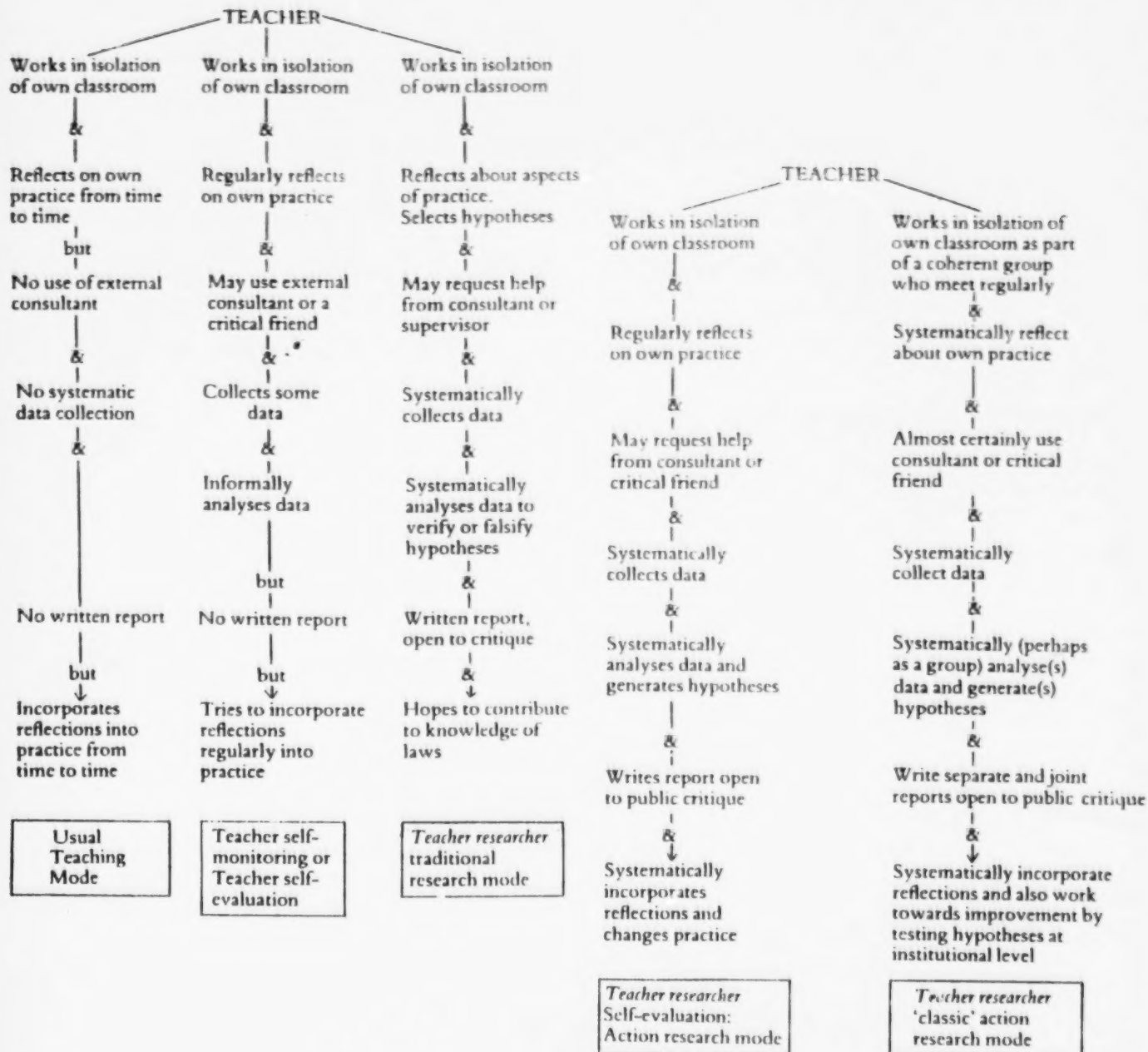
It almost makes one feel saudades for 1973! We are now at the opposite extreme, where the teacher is made totally responsible for success or failure, and such questions as methods and materials are minor factors. This makes it even more necessary for the teacher to be able to make use of a pool of systematised experience and data relating to the problems that he encounters.

3.2 Types of classroom centred research.

What are the different ways, then in which the teacher can investigate his own classroom. Obviously, there are the formal research projects such as the Pennsylvania Project, but there is a vast range from the informal to the erudite, when we look at ways in which classroom experience can be incorporated into teaching methodology.

In the accompanying diagram, taken from Ebbut (1982) and quoted in Walker (1985) we can see the range of activities. To summarize, the teacher can take several decisions:

- (a) To work alone or with a group.
- (b) To work formally with a group that meets regularly or a group that only meets when there is a special reason.
- (c) To systematically focus on certain topics, or to simply deal with general classroom practice
- (d) To consult friends, colleagues, experts, the literature or simply to rely on own resources for advice or ideas.
- (e) To go about collecting data systematically, or to simply deal with what is most easily available.
- (f) To set up a formal hypothesis which will be tested.



Source: Ebbutt, 1982, 7.

(g) To incorporate results informally into own teaching practice or to produce a formal written report.

(h) To make the written report (e.g. in the form of an academic paper) available to colleagues, for criticism and comments.

Thus, we can see that there is a range in the ways in which classroom research can be carried out, and that it is not necessary to produce elaborate hypotheses or to publish a formal report. Clearly, however, it makes sense if the results of the research are communicated to others and that you yourself can obtain information from colleagues relating to their own findings.

4. Methods and procedures in classroom research

4.0 Some examples of research questions

Before we go into a deeper analysis of research for teachers let's have a look at some questions which many teachers, during their careers, have asked, and see whether or not they may be considered appropriate questions for research. Here we are leaving aside for a moment the series of research questions which Scott's (1984) groups came up with. Instead we'll take some examples which seem to occur spontaneously

1. What aspects of learning English cause most concern to Brazilian students?
2. When using communicative materials, do teachers really promote communicative activities in the classroom?
3. How should group work be set up so that all students get a better chance to talk in English?
4. What kind of topics do students prefer when choosing a reading text?

It may be these are not likely to occur as topics for articles in *Language Learning* but these are questions that perhaps teachers have often asked themselves and their colleagues, and it is possible that any answers to such questions would influence their teaching

4.1 An Example of research: Students' preferences in text choice.

Let's find out what happened when a group of teachers began to investigate one of these problems. They asked themselves the fourth of the above questions.

How would you answer the question? If you are interested, write down on a piece of paper what criteria do you think a teacher should use in order to choose an interesting text for their students.

Think of your own experience and what has been successful with you.

Some of the hypotheses raised by the teachers were as follows:

- (a) Students will be motivated if the text has lively illustrations.
- (b) Students will prefer texts which have familiar topics.
- (c) Students will prefer authentic texts with lots of cognate vocabulary.
- (d) Students will avoid texts which have unfamiliar grammatical structures.
- (e) Students will prefer texts in the form of dialogues over expository or factual texts.

How did the group of teachers go about investigating this? This was the topic for a small research project carried out as part of a course on "preparation and evaluation of teaching material" and it happened that six members of the group chose the same topic. They also chose the same procedure for investigation, which was as follows:

A number of volunteers were asked to choose from a sample of four or five texts and say which text(s) they preferred and why. The texts were typical texts which students would meet later or were from textbooks catering for the same target group. The opinions of the students were recorded on tape and then were analysed in order to see what were the common factors which influenced the choice of text.

In fact, what happened was that the most common method of research was by means of structured interview. Students' replies to the initial questions were usually so brief that the teacher felt obliged to ask more questions in order to get a better idea.

Another point was the method of presenting the texts. One teacher took four texts and pasted them all onto one sheet which was then given to the students. Another took the text, complete with illustrations, diagrams and accompanying exercises and asked the student to leaf through the set of materials before eventually choosing the text he considered most suitable. Methods varied, although a final consensus from the group was that all the texts should have been included with illustrations, titles etc. wherever possible. On the other hand, if exercises were included this could influence the students' choice, as was seen when the results were compared between different researchers..

4.2 Handling the data

What kind of data came from the interviews?
Here are some examples of students' statements

- "I chose this text because I like dialogues."
- "I chose this text because I like the illustrations."
- "I didn't like this text (about Venezuela) because I don't know anything about Venezuela, and it isn't relevant to my 'reality'".
- "I chose this text because I don't know anything about India and it's a country that interests me."

"I didn't like this text because it has a lot of new words in it that I don't understand."

"I like this text because I understand all the words and the grammar is simple."

It was difficult to make sense of isolated comments, but with four or students it became a little easier to see patterns emerging, and to find equivalents of statements between different students. This is not the place to show the transcriptions of the interviews or the tables of criteria that were set up, but to go straight to the final section and see what emerged from these pilot studies.

To summarize, the teachers engaged in this research re-examined their initial hypotheses as follows:

(a) Students will be motivated if the text has lively illustrations.

In general, this hypothesis was confirmed. Students are attracted by the appearance of a text if it is attractive. However, some interesting points emerged. In one teacher's set of interviews one of the texts chosen had an interesting illustration that in fact had very little to do with the text, and did not really help the reader understand it. Some of the students commented on this, and said that it was common in their textbooks. The illustrations often mislead rather than help, and students are aware of this. Thus, *depending on the students' previous experience* illustrations can motivate students. On the other hand, students can learn to systematically avoid looking at illustrations since they know that they can be misleading.

(b) Students will prefer texts which have familiar topics.

In general, this hypothesis was confirmed. Students consistently avoided texts of which they said: "It has nothing to do with my 'reality' or "I don't know anything about this subject." Some of the teachers tried to question students further on this, seeing the dangerous implications of this criterion for text-selection policy. If students never read in order to learn something new, how will they ever learn anything at all?

One of the interesting conclusions is that reluctance to learn through reading comes from the way in which reading texts are used normally in the L₁ and the L₂. In other words, reading texts are used as vehicles for testing students with regard to their knowledge of vocabulary, grammar etc. Consequently students always perform better on a test if the subject matter is familiar to them. Thus, the reason for choosing texts which contain no new information has nothing to do with reading strategies or the interest that students have in such texts, but is based on their previous experience with texts in the classroom.

Some students consistently chose texts which were about unknown topics and gave as reasons "Because I want learn about X" but these were a minority and usually the very best students in each class. Obviously only a small minority of the students interviewed actually read in order to learn. Most students

regarded reading as a testing operation. This explained why they felt more secure when there was no unfamiliar information.

(c) Students will prefer authentic texts with lots of cognate vocabulary.

This hypothesis was raised after the researchers had looked at the topic of reading strategies, and were enthusiastic about the relative ease with which students could understand such texts. However, after the experiment it was not confirmed. Students were extremely wary of authentic-looking texts. The reasons for this appeared to be the same as those of the previous hypothesis. The students were so used to texts being vehicles for testing that they felt insecure when faced with a text with a high proportion of cognates. They didn't look at the text as a challenge but as a trap. The result of this means that if teachers wish to use authentic and relevant texts with their students then they have to make their objectives quite clear.

(d) Students will avoid texts which have unfamiliar grammatical structures.

Once again the hypothesis was confirmed, and the reasons were the same as those for the two previous conclusions. Students approached the texts with the idea of a test at the back of their minds. However, during the interviews, when the students found a text interesting they sought out the information with little regard for the problems of grammatical structure. Thus, in a text on Snoopy, complete with illustrations, the students got the meaning of the text, and regarded it as interesting but would not have chosen it for classroom use. One of the conclusions of many of the teachers was that once students got interested in a text, they managed to understand it whether or not they had met the grammar before.

(e) Students will prefer texts in the form of dialogues over expository or factual texts.

Almost overwhelmingly, this hypothesis was confirmed. The reasons for this, however, were very similar to those behind the previous questions. The previous experience of students was that when dialogues were used in class they led to agreeable classroom activities, with role plays, perhaps tapes of the dialogues etc. When 'factual' texts were used they simply led to factual questions and more testing. Thus, there was no crucial reason for always preferring one specific type of text. Everything depended on what the students' previous experience told them.

4.3 Conclusions from the data

What have we learned with regard to carrying out a research project and with regard to the topic we investigated? Perhaps we have two main conclusions:

(a) We can now reformulate the questions.

Only now can we see that the questions we asked were fairly superficial. In fact several questions received answers that showed they were simply different aspects of the same problem. Thus, policy decisions such as to select dialogues, to use only authentic texts, to only use texts when the students are familiar with the topic, are not decisions which have anything to do with the intrinsic virtues of dialogues, authentic texts or familiar topics or whatever. They simply refer to the previous experience of students. We could take all those questions and replace them by one:

What is your previous experience of reading in the classroom and at home?

Once we have been able to find out our student's previous experience we can then estimate what changes we ourselves need to make and carry them out accordingly as part of our teaching.

This research also helps us in our attitudes to these 'appropriate' questions. In other words there is no universal answer, in each case everything depends on the student's previous experience, and the way in which he sees his current teacher as continuing in the same lines as all his previous teachers.

(b) We have a clearer awareness of the teacher's role

When the teacher was a consumer of the research carried out by others, the conclusions were accepted and then put into operation by the teacher, perhaps in a context very different to that of the original research. However, when you yourself are carrying out the research you can soon see in what context the results must be interpreted. Thus could you recommend that since students prefer familiar topics that is what you should give your students? The pedagogical consequences of this would be disastrous! Your students would never learn through reading. Yet imagine how strong the effect of the following statement is:

Research has proved that Brazilian students of English at X.....level and Y....school prefer texts with familiar vocabulary and structures.

Seeing such a statement in its full context helps you to see how such a conclusion can influence your own teaching, without simply trying to apply the conclusion directly. (Historically, this of course is the way in which reading was dealt with by the audiolingual method in the 60s and 70s!) Since you want to motivate your students to learn *through* their reading in English you the teacher must first of all build up the awareness of your students as to what reading is and make quite clear to them how you will deal with reading activities in the classroom. Thus, at the same time, classroom research reveals a situation perhaps more complex than we at first suspected but also reveals the important role that a teacher plays in initiating changes in methodology and technique.

Finally, if you as a teacher are communicating these results then you are obviously in an excellent situation to interpret the results and draw conclusions for other colleagues. Thus, your research is accessible and immediately relevant to other teachers who have perhaps already asked the same questions but have not gone so far as you in carrying out a research project.

5. Techniques used in classroom research

5.1 What techniques are available?

It should be clear now that when we use the term "classroom research" we do not necessarily mean only research which takes place entirely in the classroom, but any research which is related to what goes on in the classroom. Thus, while the classic mode for this kind of research is classroom observation, this does not tell us everything that is going on in the classroom. We need to know, for example, what is going on inside the heads of our students, and more easily discoverable aspects such as the opinions of students with regard to materials or activities. These can all be investigated by different means. To summarize briefly, the main techniques for investigating the classroom include the following:

- (a) Questionnaires: given by teachers to students, by outsiders to teachers, etc.
- (b) Structured Interviews: either face to face or group interviews.
- (c) Classroom observation: diary studies
audio recordings
video recordings
note-taking.
- (d) Protocol analyses.
- (e) Analyses of material produced: exercises, essays, etc.
- (f) Standard tests, to evaluate student performance or to diagnose particular problems.

Thus, there is a wide range of techniques which can be used to find out what is going on in the classroom or inside our students' heads. I shall give a brief mention of each of them and summarize their advantages and disadvantages. Finally, in order to give an example of their use I shall describe briefly an informal research project which used the technique.

5.2 Questionnaires

These can be prepared and administered by teachers to their students, or the students at an institution. They can also be prepared by an outside investigator who wishes to find out and compare what is going on in a wide variety of different classes. The great advantages of questionnaires are:

They can involve a large number of subjects.

The administering of questionnaires does not take too long.

Most people do not regard answering a questionnaire as an invasion or a threat and usually subjects co-operate.

The main disadvantages are:

It can involve a great deal of work in preparing the questionnaire itself and processing the completed questionnaires.

Results can often be disappointing, since answers are fairly restricted. (One way to get round this is to leave open

categories, but then you have the problem of preprocessing these results.)

Once you administer the questionnaire it is impossible to rectify any mistake. Subjects usually co-operate once with answering a questionnaire, but resent having to fill in several on the same topic. Thus, it is important to pilot the questionnaire and get a group of people to work on the items to make sure they are foolproof.

Some examples of research by questionnaire are given in 'The ESPecialist' No.6., in the articles by Bogaard (1983) and Rodrigues (1983). These illustrate nicely the attractions and the dangers of this form of research. Bogaard's research was a Needs Analysis carried out among dozens of ESP classes at the beginning of the National ESP Project, but by the time the data had been analysed and the study was published, the data were no longer relevant. Not only that but a glance at some of the questions will show that they were prepared by a teacher who had more familiarity with general classrooms than with the teaching of EAP reading comprehension. This shows the advantage of discussions with the subjects or with your colleagues before carrying out a research programme involving questionnaires.

Another example of the use of questionnaires is that by Alderson (1985) who sent questionnaires to find out what his ex-students thought of the course, several months after it had ended. In this case, since the students were spread over different parts of the country there was no other method by which the opinions of ex-students could have been analysed.

One of the major undertakings in the area of project evaluation is taking place during 1986 and 1987 using questionnaires as one of the most important research tools. This is the evaluation of the Brazilian National ESP Project, which is being carried out with Charles Alderson of Lancaster University as one of the senior advisers. Due to the size of the project, - 23 universities throughout Brazil, - questionnaires will be important in giving a yardstick by which individual universities or more detailed investigations can be gauged.

5.3 Structured Interviews

The procedure is as follows. First you make a list of the kind of information you want, and formulate a set of questions which should give you those answers. The method of administering is usually in a face to face interview, between investigator and subject, or teacher and student. However, it can also be a collective interview, in which the questions are given to a group, or the whole class, and the answers are agreed on by the group and reported by a member of the group, as well as the investigator.

Let's take some examples. In the research mentioned in part 3.0 the objective was to find out what were the criteria that students considered important in the choice of texts. The teachers who carried out the research prepared a set of questions which included items like:

- (a) Which text do you think is most interesting?
- (b) Is it interesting because of the content or the language?
- (c) Did the illustration help you to select the text?

(d) Which text did you least like?

During the interview other topics arose, and these were naturally dealt with by other questions, such as 'Do you prefer dialogues to factual texts?' and 'Do you always avoid texts which have unknown vocabulary?'

The main advantage of the structured interview is its flexibility. As we pointed out, one of the problems of using questionnaires is that your subjects are limited to the responses you put in the forms. Even if you allow a space for spontaneous answers, usually the subjects do not take advantage of this. In any case, you must process the answers to your questionnaires and it is often difficult to do this with many divergent answers.

With structured interviews the rigid nature of questionnaires is avoided and if your subjects come up with any interesting ideas you can follow up by asking further questions. One of the most important aspects of any research is the fact that you may obtain information which you never suspected and obtain new insights as well as confirming or refuting your hypothesis. Thus, in the research on student preferences in text choice most teachers were agreeably surprised by the care with which students considered their opinions. The choice of texts was obviously a subject that students had already thought about. Many teachers, who previously regarded their own students as mere consumers of text books, looked on text book choice in a different light after carrying out their interviews.

Another point also was that the students were flattered and highly motivated by being called upon to take part in the structured interviews and the research process itself helped to improve relations between teacher and students. Since research is a high prestige activity, the students looked at the teachers being much more glamorous in the guise of a researcher than a mere teacher of English. It should be remembered as well that the students are interested in your results, and that if you discuss them openly, they will be able to see what you are trying to do and co-operate much more. It is a common consequence of this kind of research that students become more interested in their own learning strategies if the teacher discusses the research with them.

The disadvantages of the structured interview are mainly logistic in nature. If interviewing students one by one, then it is possible to interview only a limited number in the time normally available. Also, while the answers may show a rich variety of different opinions it is rarely possible to table them and draw systematic conclusions from them as with questionnaires.

5.4 Classroom Observation

This is one of the most common forms of classroom research and what we normally think of when we use the term. The simplest way to carry it out is to bring a taperecorder and record your class, then transcribe the recording. Audio recordings can be stored, so that you can go back to the original tape if there are any doubts later. You can record the classroom by using video, if you have the resources, but this implies at least two cameras, and someone

to operate them. Another way to observe the classroom is for an observer to take notes. In this case, you must be clear about what kind of information you need. For example, you may want to find out how many minutes student X spent with his attention focussed on the teacher, or how much English he spoke when he was working in a group, or which students contributed most and what kind of questions they asked.

The **advantages** of observation as a research technique are mainly in the richness of the data which you get, especially from a video or audio recording. Thus, from one recording you can obtain insights into various aspects of the class. You can analyse the type of questions the teacher asks as in Long and Sato (1984) or you can analyse the kinds of questions that your students ask, to find out if your students worry more about grammar, vocabulary or simple procedure. In my own experience, a classroom recording can offer unique insights into your own teaching, and can help you correct your own mistakes, -before it's too late!

Another advantage is that it need not involve anyone else, and can be a research project carried out by you with your own students. Thus, no-one feels that they are being "threatened" or judged. Furthermore, it is easy to carry out a pilot study and repeat the study with the same group later. There is no limit to the number of times you can record your class, while there is a definite limit to the number of questionnaires you can give your students. Indeed, although the class may at first be somewhat subdued by the presence of a tape recorder, the more often it is used the more natural will be the data. Also, there is no restriction on the type of class you can record, - there are even cases of audio recordings of composition classes, when the sound of pens moving across paper at times was the only data!

The **disadvantages** lie mainly in the fact that recording seems immediately attractive and recording one's classroom is easy. Teachers get very enthusiastic and tape dozens of classes and then have the problem of making sense of the data. This in fact is where most work is involved. In order to analyse what is going on in the classroom you need a theory and an objective, -it is rare that you see something emerging spontaneously from your transcription. It's important, then to study the kind of analyses made of classroom activities by Sinclair and Coulthard (1976) and Allwright (1980) in order to get an idea of how to analyse the interaction which takes place in your classroom. Although no classroom research can be carried out without theory, it's probably safe to say that classroom observation is the procedure which leads to most frustration for teachers who imagined that it would be relatively easy.

Another difficulty in this type of observation is the time taken up in transcribing. If you taped a class that lasted forty minutes you could spend three hours or more transcribing the lesson, and then you have to type out the transcription. This can take up a great deal of your time if you decide to tape several lessons and especially if you tape a class which you yourself were not present. And of course, how do you transcribe a video of a class? In that case you will have to include all the gestures and the movements that the teacher and students made and which were recorded. You will need a script for this as well!

To take some examples of classroom research studies, we can take two very different studies, which were presented as part of the course assignments for the M.A. in Applied Linguistics at PUC-SP. One was to find out students' text preferences (again!) and another was to examine the role of the teacher in a conversation class.

First, the research to find out students' text preference took the form of taping two classes, taught by the researcher, with the same group of students. One was a class which used a typical adapted textbook-type text. Another was a class where the teacher used an authentic text, rich in cognates, on a topic familiar to the students. The researcher then transcribed the tapes and analysed the questions of the students to see what had aroused their interest. The result was as in the structured interviews: the students reacted better to the adapted text, but were suspicious and not very convinced by the authentic text. They kept asking questions of vocabulary relating to what the exasperated teacher thought were "obvious" cognates, like "area" "mountainous" etc. On analysing the two classes it was clear that the students did not understand the objectives of the class where the authentic text had been used and were unaware of the reading strategies they could use. Conclusion? The teacher decided that reading strategies had to be explicitly taught if students were to make good use of them.

The conversation class research was carried out to find out what moves by the teacher kept the oral interaction going. So, the researcher analysed her contributions and saw how much "free" conversation or debate then ensued. One interesting fact that emerged was that she had always been advised to come up with a contrary opinion to that of her students in order to get a conversation going. What happened in her class was the exact opposite. The conversation died, and only resumed when students got talking about things they agreed upon, which in real life is the most common type of conversation between friends! Also, the research helped to identify the most interesting topics and the way that the conversation best got off the ground.

5.5 Diary Studies

A long-established method of gleaning data is by means of diary studies, either those of students or teachers. In many cases, students of applied linguistics M.A. courses in the U.S. are asked to take a course in the learning of a foreign language and then describe their experiences in the form of a diary study. They then obtain insights as to what it is like to be a student again, - something which many teachers have long forgotten! The main point about a diary study is that the diary entries should be written up as soon as possible after the lesson, while the events and emotions are still fresh in the mind, and without having time to reflect and distort impressions of the class. In this way a true picture of the mood of the class is obtained. For example, feelings of competitiveness, which may have been quite acute during the class, -resentment that a colleague was asked an easier question than you, for example,- can often be tempered by reflection, and the automatic censoring process of the superego,

or whatever. Most people are quite surprised when they compare their memories of last week's class with what they wrote about it as soon as the class ended. There is an interesting discussion of diary studies in the article by Bailey (1984)

The **advantages** of diary studies are that they are easy to carry out, - it just needs about 15 minutes after the end of a class - and that they can involve the students as well in the research process. Also diary studies are one way of carrying out longitudinal research, - over a period of time. While classroom observation is good at offering a "snapshot" of a lesson, diary studies offer a lesson-by lesson survey of the whole course, from start to finish. They very often show, for example, a lack of motivation or frustration around the middle of the course, a period when the students do not seem to get on well with each other, and usually an improvement in this towards the end. A single exercise in classroom observation could give you an "untypical" example of how the course was going.

The **disadvantages** are mainly in the lack of academic respectability of a diary study. The researcher must be completely sincere and must be fairly secure so as to be able to make adverse criticisms of himself in public. Also he should have a good working relationship with his students if he wishes to use the diary data prepared by his own students. He needs to be sure that the students will be frank and honest in their comments, and not merely produce a whitewash. For this reason, it is often difficult to judge the generalisability of someone else's dairy studies.

Finally, once again there must be some kind of theory behind the analysis of the diary studies, although in this case, the insights will be mostly with regard to motivation and classroom management and of a general nature rather than the specific type of comments which emerge from classroom observation. Here it is useful to look at Bailey (1984) for a discussion of diary study research.

One **example** of a diary study was made by an English teacher who decided to take a private French course. The researcher used the diary study as a way of analysing her own motivation and the relations between students. In her study she came to several interesting conclusions, especially with regard to the existence of little personal jealousies within the class. The researcher herself confessed how unreasonably resentful she felt when a weaker student seemed to get all the easy questions and the praise. Then there was an interesting passage when the researcher analysed her motives for not doing the homework she was requested to do! This kind of information shows that the data from diary studies can be useful, but probably more to the researcher than the methodologist.

5.6 Protocol Analyses

Here we move outside the classroom, or rather we move into the student's thought processes. Classroom observations tell us what is going on in the space of the classroom itself, but in order to find out what is going on in terms of psychological processes the analysis of student protocols is a useful tool. We can define protocols as a systematic report of the stages of a process. This report can be carried out by observers, such as in Piaget's studies of the acquisition of cognitive skills by children, or more commonly, it the report can be made by the person who is carried out the activity. Obviously, this depends on your subjects. If you want to examine a chimpanzee's thought processes as he solves a problem, then the report must be made by the observer. If you want to see how a student goes about writing an essay, then he can help you by telling himself what he is doing and why.

In psychology, protocols have been used extensively, since the current upsurge of interest into the analysis of processes rather than product. It is especially useful in investigating how subjects go about the solving of problems. Hayes (1983) gives a very clear outline of different types of protocols and the insights that they can afford. In the area of reading skills research protocols have been used in various forms. Cavalcanti (1984) gives a summary of the different ways in which the reading process can be analysed, and points out the advantages of introspective techniques, in which the subject is encouraged to "think aloud" as he solves the problem, - in this case, reads the text.

The classic research in the area of protocol analysis is that of Hosenfeld (1977). She simply asked a student to read a passage from a textbook and think aloud as he performed the activities that normally took place in his reading. In this case, for example, the student had the habit of translating, thus, the student read a text in French and explained the text as he went along, looking up difficult words in the dictionary and difficult structures in the grammar book. In the 1977 paper she compared two readers: the fluent one with good inference strategies and the poor one who plodded through the text on a word-by-word level. The technique was fairly simple. The student was selected from the class, or volunteered. The task was given and the session was recorded. The instructions to the student were to "Do as you usually do, but think aloud while you do it." The researcher from time to time had to stimulate the student into talking, e.g., asking questions such as: "What are you doing now?" or "What are you looking at now?" The protocol was recorded and later transcribed.

The advantages of the procedure are that in this way you obtain data which are otherwise only guessable. We can see what is happening in terms of learning processes, so we can evaluate the effectiveness of our materials and the methodology on which our materials are based. Usually research seems to concentrate on the products of the processes which are only guessed at from indirect clues. Also, it is useful as a diagnostic tool if we want to find out some special item of information. It can also be used as a

teaching device, if you discuss the protocol afterwards with the class or the students.

The main disadvantages lie in the procedure itself. Most teachers find it difficult not to interfere in the protocol stage and instead of getting students to simply say what is going on in their heads, they turn the session into another language class. For an illustration of how difficult it is to restrain yourself, look at the interviews of Hosenfeld (1977) and put yourself in her place. Could you have been so restrained in dealing with the weaker student? In practice, what happens is that the protocol turns into a structured interview! For example, the student can't understand a word, and the teacher asks "Don't you think it looks like a word in Portuguese?" or "Don't you think the title gives you a clue to this word?" In the case of the research in section 5.3, in some cases the researchers intended to carry out investigation by protocols, but it proved difficult, at least the first time, to get the students to verbalise as they selected the text which they considered the best. The structured interview was, at least on this first occasion, more fruitful. The first time a teacher sets out to carry out a protocol analysis it is often difficult to forget the habits of years of teaching. Students also need practice, so it may be only after several tries that the technique appears to work.

Again, another problem lies in the theory behind the analysis of data. A protocol must focus on some aspect of the learning process and so it is useful to have an idea as to what strategies you will investigate in your research. In this way, if your own course design emphasises the importance of strategies and the learning processes, your protocol research will be more useful. In Brazil, there is already a growing body of data relating to the reading strategies used by Brazilian students reading in English. See Cavalcanti (1984) for more information on this topic.

As an example of this kind of research in a Brazilian context, I shall briefly mention a study carried out with Brazilian students and the strategies they used when faced with authentic texts. The research was carried out in imitation of Hosenfeld, and two students were used. Each student received the same two texts, one a typical textbook text, the other an article taken from a magazine, complete with illustrations and fairly rich in cognates. In addition it was about a topic relating to Brazilian political events, well-known at the time. The results of the protocols showed what can be regarded as a common phenomenon, - the familiarity with the simplified text and suspicion when seeing an authentic text for the first time. However it also revealed the very different strategies used by the two subjects. One plodded slowly through the authentic text, looking up "obvious" cognates in the dictionary, and focussing on word-by-word comprehension, while the other reader looked first at the illustration, the titles, and tried to guess at the general content before going into the text in more detail. The second subject was an enthusiastic guesser, - so enthusiastic that he guessed wrongly quite often, and identified cognates where none existed, e.g. 'assess' was 'assistir', and verbs were identified as nouns, etc. In this case, the protocols showed the variety of strategies and learning styles which readers use when tackling a task like an authentic English text for the first time. The implications for

teaching are interesting. That sometimes the strategies can vary so much that some students must be encouraged in guessing more whilst others must be helped to guess more carefully. Again, when we start to investigate what really goes on in the learning process we see how difficult it is to generalise and how important is the role of the teacher in understanding these processes and the individual differences which can be found within the average classroom.

5.7 Analysis of student production

One traditional way of carrying out classroom research is by analysing what your students produce during the lesson or for homework, or as part of class evaluation. In the past, of course, the only focus for research was production. This has become less common as attention has shifted more to the understanding of processes, but nonetheless there is a role which this kind of research can play in the classroom. In the main there are two types of analyses: the identification of errors or strategies.

Traditionally the analysis of student production has been the focus for error analysis, perhaps mainly because teachers are accustomed to identifying the errors of their students! When students hand in an essay, for example, the teacher picks up the red pen and selects the errors. Thus, error analysis makes a virtue out of this necessary role of the teacher. In fact, it can give important insights into what is going on and we can identify types such as:

(a) Transfer errors, caused by the student transferring a rule from the L_1 to the L_2 . e.g. "I'm liking* this film"

(b) Over-generalization, when students apply a rule which they do not know fully, e.g. "I swimm*ed in the sea yesterday."

(c) "Goofs" which come from a variety of sources e.g. "The police were informed and he* captured the bank robber"

There are many other sources for student errors, and it may be useful to look in Selinker (1972) for what he calls the 'Five Central Processes' which lead to the type of language which the L_2 learner produces.

However a more useful, but more difficult approach would be not to simply identify errors but to identify the strategies which students use in learning. In the examples above, we can see that there are reasons for each error, - transferring rules from L_1 to L_2 , applying rules in the L_2 even when all the exceptions have not been learned, and attempting to apply a rule but being unable to fix on it while trying to remember all the other aspects. In this way, we can identify the strategies which the student uses, which is a more positive approach than simply identifying errors.

Unfortunately, we are far from being able to prepare a "strategic profile" of our students' learning processes, because we can identify the processes which cause errors much more easily than those which give good results. In order to identify the

successful processes you must know your students sufficiently. For example, when a student wrote:

*We were fifteen persons at all**

The teacher could see from the error a direct transfer from Portuguese. However, when the same student in the same essay wrote:

She is not my type of girl

The teacher could identify this as another example of transfer because the teacher was certain that the student had not learned this expression before. From the traditional point of the teacher the first example is an error and is marked wrong, but the second example is correct and is marked right. From the point of view of the student, he is using the same strategy of transfer from L₁ only, in the first example it is mysteriously wrong, but in the second example it is equally mysteriously correct. The result of this is that the student does not learn anything useful about what strategies he can use in his learning.

The **advantages** of this type of research are mainly in the ease with which the teacher can get hold of the material. It is not difficult to photocopy some of the students' exercises or essays for further analysis.

The **disadvantages** are as we have shown. It is easy to identify errors, but a little more difficult to identify the sources of these errors, or - more usefully, - to identify the strategies that students use in getting the right answers as well. For too long teachers have thought that if students get the answer right it's because of the teacher and if they get the answer wrong it's their own fault. As we have seen above, there are plenty of research techniques which are much more helpful in identifying student strategies, but if you have a large amount of data for analysis, in the form of essays for example, this could be quite useful.

Our **example** of this type of research comes from essay writing. In research conducted to analyse the types of strategies used by students the researcher analysed the essays written by a class of about fifteen students on five different topics. She attempted not just to underline errors but to evaluate the strategies that resulted in correct production as well. As a basis she took the strategies listed by Tarone (1983) which in turn come from the traditional 'sources of error' like transfer, over-generalization, etc. The results of the research seem to show that different students use different strategies, -some use dictionaries, for example, more than others, and others like to guess. However, one important effect was that of the nature of the subject matter in the type of strategies. Some topics made all the students dependent upon their dictionaries. Other topics helped the students who simply adapted the instructions to build up part of their essay. (e.g. 'You have seen an advertisement for cheap flights to Greece and...' the student then begins: 'I have read your advertisement in the *Daily News* for cheap flights to Greece and...') Thus, the essay teacher has an important role to play in encouraging the development of 'good' strategies by careful choice of subject matter.

*I am indebted to Eliana Valdez Lopez for this insight.

5.8 Analysis of formal tests

Another classical example of a common research technique is in the analysis of student performance on standard tests. This can give the impression of being a lot more 'objective' and scientific, since it frequently deals with numbers and statistics, but it can also tell the teacher what is going on in a particular situation. However, to have some validity for the classroom situation, it should be clear as to what type of test we are going to use.

The main distinction here is between 'norm-referenced' and 'criterion-referenced' tests. The first type are the more common, dealing with the marks that students need in order to pass or fail the course, and putting the students in a certain order, so that the best ones get the higher marks. Criterion-referenced tests are set up in order to examine certain topics, usually related to the objectives of the course, in order to see if students have learned successfully or to diagnose where the learning process went wrong. Thus, in an EAP reading course, we might administer a test to evaluate the way in which our students have learned to skim a text for general meaning. We might also give a test to examine the motivation and attitudes of the students, if that was an objective of our course. The results would then appear in the form of numbers, and by themselves might be useless, but it would offer us a way of comparing between different classes if we used the same tests and shared the same objectives, and it could give interesting insights in helping to compare different groups.

These are the advantages of this kind of research technique. In addition you have the high face-validity which comes from the tables of numbers and the diagrams which you use to express your results. Also, if you need to test your students as part of the administration of your course, then it might be useful to take advantage of this and use the inevitable, standard test as a research tool.

The disadvantages come from the same cause. You need to be careful that you explain the situations in which the tests were administered so that the results can be compared with reasonable validity. Also the test results are even more specific and limited in their scope than the questionnaire. Many people are seduced by the numbers that can come from this type of research and this is probably why so many formal tests in Brazil are of the multiple-choice variety. However, the objectivity of such tests is only in the marking of them. The preparation is an entirely subjective affair!

If you wish to engage in this sort of research, make sure you have access to a computer and that you are aware of the necessary statistical procedures. Farhady and Hatch (1982) is very useful.

5. CONCLUSION

So, those are some of the ways in which you can investigate what goes in your class, and communicate the findings to your colleagues. None of these procedures are mutually exclusive, of course, and when you find a situation ripe for research of your own, a lot will depend on factors such as the time you have at your disposal, the space available and the equipment you can use. A lot will depend on the means you want to use in order to communicate your findings. Obviously a research project published in *Language Learning* will be different from one which is to be the topic of a departmental colloquium.

As has already been mentioned, it is now becoming common to see Brazilian university teachers carrying out their own classroom-related research, and a great deal of useful work has already been done and has been published. If anyone is still not sure about a worthy topic for research there is a list of 'appropriate questions' in Scott (1985) which should give some inspiration. The usefulness of your research project and its relevance to you and your colleagues are of course dependent on the interest that you yourself feel. You are the first judge of what should be relevant and interesting to you, and your first consultation should be made with your own experience and your own interests.

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As will be obvious, in this working paper I relied upon the work of many of my students on the LAEL M.A. course at PUC-SP, who carried out classroom research projects as part of the courses in "Preparação e avaliação de material didático" in 1984 and 1986, as well as students of the "Teoria de aprendizagem de uma segunda língua" in 1985. I did not know whether to cite all the names of all the students whose course assignments turned up such interesting ideas and who showed such enthusiasm in trying to find out what was going on in their classrooms. I thought of the idea of giving the names of those whose research is mentioned, but this meant leaving out names of others whose research was equally important, and of course the main reason for citing names is to help the reader get more information by referring to the original author. Unfortunately, these assignments were never published, so it would be difficult for interested readers to pursue the topic further. Since more than fifty people have already carried out some kind of classroom research I thought that the best idea was not to mention any names, but to leave this paper as an incentive to those who carried out the research and remind them that it is time they communicated their interesting findings to others, and published!

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